Major Obstacles for SMEs: A Comparative Analysis of Bangladesh, South Asia and other Developing Countries

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Abstract

SMEs make a significant contribution to economic growth and employment generation both in developed and developing economies. However, they face several obstacles which impede the growth of SMEs leaving adverse effect on the economic growth. This study attempts to understand the obstacles faced by the SMEs of Bangladesh and other developing countries. A comparative analysis shows that, as predicted, access to finance is a significant obstacle of small firms of Bangladesh and other developing countries. Another common barrier is the lack of electricity. Moreover, SMEs of the South Asian countries are facing the problem of inadequate educated workforce and electricity compared to large firms. The medium enterprises of Bangladesh are having no significant obstacles compared to large firms whereas medium enterprises of developing countries are experiencing obstacle in access to finance compared to large firms. Similar types of firms in South Asia perceive tax rate, political instability, corruption and inadequately educated workforce as a problem after controlling for several other potential factors. Moreover, firm's location seems to be important to determine whether firms face obstacles. Since the obstacles faced by SMEs are different across countries, the paper suggests adopting differential policy instruments to address those issues instead of adopting one-size-fits-all policy.

JEL Codes: L5, H2, D73, H5

Keywords: SMEs, Obstacles, South Asia, Developing countries, Bangladesh.

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1.0 Introduction

More than 90% of the enterprises of the developing countries are SMEs (WTO, 2017). These SMEs contribute mostly in service, trade, manufacturing, and agriculture sector. The growth rate of these types of enterprises is faster than the large enterprises, though the productivity of these firms is deemed to be relatively lower (Maksimovic and Phillips 2002; Banerjee and Duflo 2005; Bartelsman et al. 2013). The lower productivity of these firms is mostly resulted from being labour intensive. Though these firms have relatively lower productivity, SMEs are contributing significantly to employment generation, and value addition. For instance, their contribution to GDP is about 35% in developing countries and around 50% in developed countries. In advanced economies, larger and mature firms are holding the major share of employment, but in developing countries, SMEs contribute in employment equally as large firms. Moreover, SMEs are responsible for a significant share of job creation in developing countries (Ayyagari et al. 2011). In Bangladesh, SMEs operating in manufacturing sector contributed about 11% of the GDP in 2012 (BBS 2012). Since developing countries usually have a large informal sector, these numbers are underestimated as informal sectors are often excluded in the calculation.

Even though small and medium firms are playing a crucial role in employment, income generation and thus poverty alleviation (Beck, Kunt and Levine 2005), unfortunately, SMEs are prone to many obstacles which inhibit their growth, and in many cases, these obstacles are different than what is being observed by large firms. To ensure a better business environment for SMEs, it is very crucial to understand the obstacles to their business operation and promotion, i.e. we need to figure out the obstacles faced by these types of firms and formulate and design policy to remove those barriers for smoother SMEs' growth. Removal of these obstacles could also help the existing firms pass the transition phase as well as encourage the new entrepreneur to enter the business. Moreover, it is equally important to understand whether the obstacles faced by the firms are similar or different across different countries. If substantial differences are observed in terms of obstacles faced by the firms located in different countries, it will call for the policy changes which would be country-specific, instead of one-size-fits-all. This study intends to understand the barrier faced by the SMEs in the developing countries, and what factors determine those barriers i.e. whether firm characteristics explain the variations in obstacles faced, especially whether firm's location and size matter. We also attempt to gauge the differences in barriers across developing countries.

Numerous studies and research have been conducted to trace the obstacles faced by SMEs in developed and developing countries. Not surprisingly, access to finance is found to be the major problem faced by all types of firms both in developed and developing countries. However, other challenges remain, and these are corruption, unskilled labor, electricity, political instability, tax rate etc. Though financing is a major obstacle among small and medium firms compared to large firms, other obstacles also demand equal attention. Small and medium firms are grouped together but they are different in many respect such as capital, employees etc. Again, firms classified under this group are completely different than large firms. Because of the differences in characteristics of small, medium and large firms, their obstacles are also expected to be different. Obstacles can also vary because of the differential country characteristics. That's why country/region specific analysis will be helpful to understand whether a regional difference exists in the severity of obstacles. The current study attempts to investigate the obstacles of SMEs across Bangladesh, South Asia, and other developing countries using the World Bank Enterprise survey data of 113 developing countries.

2.0 Theoretical Arguments on Firm Size and the obstacles

Schiffer and Weder (2001) provide some theoretical arguments regarding why small and medium firms would face more obstacles than large size firms. Firstly, compliance with the regulations or obstacles could be very costly for the small and medium firms because this cost could be a larger portion of their total cost. In contrast, large firms can easily cope with the compliance cost since they enjoy economies of scale. Small and medium firms may not get easy access to loan since financial institutions usually find it more costly (say the cost of loan review per amount of loan) to give loans to the small and medium size firms compared to the cost of giving loans to large firms. On the other hand, bribing the bureaucrats could be exorbitantly high for small firms. De Soto (1987) shows there are enormous obstacles in form of red tape that small entrepreneurs encounter when trying to obtain a business license. That study claims that since small firms have limited access to the high-level public administration, they cannot find their way through the system of bureaucracy set by the higher state authorities.

Secondly, small firms may not be able to collude, since forming a group is costly and there is a possibility of free-rider problem, as argued in Olson (1956). However, for large firms it is relatively easy to form a group and that group will have a relatively stronger influence on government. Therefore, large firms may not face similar obstacles compared to small firms.

Third, Johnson, Kaufmann and Zoido-Lobaton (1998) show that countries with high levels of corruption and weak institution may lead to higher informality. Many of the small and medium firms operate informally. However, though informal, it might be observable to the government bodies, and hence, they may have to engage in some activities to stay informal which includes bribery. Because they operate informally, they have to face market-based constraints such as lack of access to finance.

Based on the above discussion, we can say that small and medium firms may face more obstacles from both market constraints and institutional constraints. Even though a theoretical model can be developed to better understand the obstacles just discussed, a theoretical model is not developed in this study. Hence, no structural equations are used. For this type of study, it is not uncommon to use a completely empirical approach (see Johnson, Kaufmann and Zoido-Lobaton (1998)), i.e. use of reduced form equation rather than structural form.

3.0 The empirical strategy

For our analysis, we rely substantially on the descriptive statistics of the firms of Bangladesh, South Asia, and other developing countries. However, we use statistical significance tests where appropriate. Since the data were collected in different years in different countries, it may not be a fair comparison if we compare the data of Bangladesh of 2007, say with the dataset of 2015 of other countries. Hence, we attempted to get a fair cross-section only keeping the data for the most recent year, i.e., 2015. If we want to have a pure cross-section this way, we encounter a substantial reduction in sample size, and so we made a cross-section by including the survey conducted in the recent five years but it not panel or pooled data. It is worth mentioning that an ideal cross section requires data collected in a single point in time. Since survey year of the countries of interest for this study was different, we used the data of recent years to get a relatively ideal cross section. It is almost less likely that there will be a substantial institutional change within such a short period, say one year or so and hence, this dataset is expected to be analogous to the pure cross-section. It is less likely that there will be a substantial institutional change within such a short period, say one year or so, and hence, this dataset is expected to be analogous to the pure cross-section. Though panel data set is available for Bangladesh, no such panel data is provided for the comparison countries/regions. Moreover, the panel dataset is more of an accidental panel rather than a pure longitudinal one. In

addition, the number of observation in the panel is very limited. Therefore, the methodological advantage of panel data cannot fully be capitalized.

We have used the following deduced form regression models:

$$Constraints_{is} = \beta_{0s} + \beta_{1s} firm\ size_{is} + \beta_{2s} industry\ type_{is} + \beta_{3s} location_{is} + \beta_{4s} domestic_{is}$$
$$+ \beta_{5s} firm\ size_{is} * location_{is} + \beta_{6s} size_{is} * industry\ type_{is}$$
$$+ \beta_{7s} female\ ownership_{is} + \beta_{8s} firm\ age_{is} + \beta_{9s} managerial\ experience_{is}$$
$$+ \beta_{10s} exporting\ firm_{is} + \mu_{is}$$

Where 'i' represents a particular firm and 's' represents a particular type of institutional constraint. For this study, we have focused on six obstacles namely, tax rate, access to finance, political stability, corruption, inadequately educated labor force, and electricity. Variables representing each of the institutional constraints assume a value of either '1' or '0', where '1' denotes severe constraint and '0' denotes no constraint. As determinants of these constraints, we have used numerous variables such as firm size dummies, manufacturing firm dummy, city dummy, domestic ownership dummy, female ownership dummy, firm age and experience of the managers. Table A (appendix) shows the detail description of the independent variables. Also, we have included interaction terms of city dummy and manufacturing firm dummy, with each of the firm size dummies in our regression models. It is worth mentioning that for each of the six institutional constraints we have estimated a separate regression, where those institutional variables have entered as a dependent variable. It is worth mentioning that though we mainly want to focus on SMEs (small and medium enterprise), we have introduced separate dummies for small and medium firms to capture the effect of firm size on obstacles within the SMEs. Since each of the institutional constraints is a binary variable, we have used 'Probit[1]' regression model for our econometric analysis. Thus, we want to examine how different factors may affect the probability of an institutional constraint being severe for firms. A positive and statistically significant coefficient of a variable implies that a firm will perceive an obstacle severe for that factor. In this connection, it is important to mention that we have used average marginal effect to get the marginal effect of a variable. Apart from this, we have also used few univariate and bi-variate analysis for our study.

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[1] Though it may seem that logit is more appropriate for these type of dataset, when we ran regression with same data with logit, we did not observe any substantial difference. In fact, almost all cases the sign and magnitudes are very much similar.

3.1 The data

The study uses Word Bank enterprise survey data. It is an excellent source of firm-level data across 113 countries with varying income levels. Even though the survey started with the transition economies, the World Bank has extended the number of countries in the recent years. It is always challenging to define the size of the firm since various definitions are used in different countries. We used the World Bank's definition based on employment, i.e., if the firm has less than 20 employees it will be regarded as small firm, and if the number of employees varies between 20 to 100 is defined as medium-size firms and firms having more than 100 employees will be viewed as large firms. We compared the obstacles faced by the firms of Bangladesh and South Asia as well as of other developing countries.

4.0 Results

4.1 Descriptive statistics

Though many international agencies and governments of different countries have prioritized the policy for a considerable removal of access to finance barrier with an assumption that the lack of access to finance constricts business growth especially for the SMEs, it is important to see whether SMEs also perceive that as the most important barrier to advancement. Moreover, it is equally important to understand whether any heterogeneity exists regarding the barrier faced and if exits what are the drivers of those heterogeneities. As stated above, this study intends to identify the barrier faced by the SMEs in Bangladesh and to make a comparison with the South Asian countries and other developing countries to understand whether SMEs of Bangladesh face different or similar type of obstacles compared to similar size firms of other developing countries.

The Enterprise Survey has a question asking about the most critical obstacles to the business. The table shows that access to finance, as expected, is the single most common obstacle to business expansion in the developing countries. Micro-credit and other MFI probably focus more on the ultra-poor, the banking and other institutions focus on the medium and large firms to reduce the administrative costs; hence, the small firms still lack proper access to finance. In Bangladesh lack of electricity is considered as the second most significant obstacle to business followed by political stability. Bureaucratic corruption in the developing countries also seem to be a barrier to business growth, and this is even worse in case of Bangladesh. There is also some heterogeneity within the economy. For example, access to finance is a relatively less critical problem for

large firms, but it is a significant obstacle for the small firms, more than one in four small firms indicated it as the most important barrier to their business.

Table 1: Distribution of major obstacles reported by small (S), medium (M) and large (L) firms

Most important barrier	Bangladesh				South Asia				Other countries			
	S	M	L	Total	S	M	L	Total	S	M	L	Total
Access to finance	28.83	21.63	17.00	24.28	28.36	20.82	16.33	23.60	26.04	19.47	15.34	21.90
Corruption	11.07	13.44	13.61	12.33	10.89	12.94	13.08	11.99	10.00	12.10	12.28	11.12
Electricity	18.71	18.71	19.44	18.84	18.40	18.01	18.67	18.31	16.90	16.85	17.54	16.99
Inadequately educated labor	7.64	11.89	15.00	10.39	7.51	11.44	14.41	10.10	6.90	10.70	13.54	9.37
Political instability	15.99	16.12	18.37	16.46	15.73	15.52	17.65	16.00	14.44	14.52	16.58	14.85
Practices of competition	17.72	18.13	16.46	17.63	17.43	17.45	15.82	17.14	16.00	16.32	14.85	15.91
Tax rates	0.04	0.08	0.10	0.07	1.69	3.83	4.04	2.85	9.73	10.04	9.87	9.86

When we compare the major obstacles faced by firms located in South Asian countries and other developing countries, we observe some similarities and some dissimilarities. The difference is even stark when we compare with the similar size firms of the developed countries. The firms located in the developed countries perceive the tax rate to be significant barrier to their development, and another thing found to be significant is lack of trained workers. These two factors seem to be less of a significant hurdle for the developing countries. It does not necessarily mean that developing countries do not suffer from these problems; instead, these issues may become prominent when there is no barrier due to lack of access to finance and other infrastructure especially electricity.

Most of the previous discussion was based on the question regarding the perception about the most important obstacles. The ES dataset also has a question asking about whether any of the obstacles affect their business operation separately. For instance, they were asked whether tax rates, tax administration, corruption, access to finance, political stability were anything to do their business operation. Although more than ten obstacles are questioned, we only analyze five obstacles since these are found to be the top five obstacles to the business operation as discussed in the earlier part. The questions were about whether any of the following factors put any perceived obstacles to business operation ranging from no obstacles to very severe obstacles. We define an obstacle severe (recorded as '1') if firms consider that obstacle as moderate to very severe, and if the firms perceive it as no or minor obstacle we define it as no obstacle (recorded as '0').

It is not only that smaller size or medium size firms face a different problem in Bangladesh and other South Asian countries, the firms of other developing countries also face a different type of obstacle. The tax rate seems to be less of a problem for the small or medium size firms in Bangladesh compared to their counterparts in South Asia and other developing countries. Access to finance is also found to be very high compared to the South Asian countries and when compared to other developing countries.

Lack of supportive infrastructure especially the electricity is found be an important barrier to the growth of the firms. Where more than 50% of firms in the developing countries perceive the lack of electricity as a big impediment to their growth, more than 90% of the firms in Bangladesh perceived electricity as a highly significant barrier to their growth, this measure is statistically significant (significant at 1% level).

The electricity problem is further explained by the information available on the days to get the electricity connection for the firms (see Table 2). While in other developing and South Asian countries, it takes only around 25 days to get a connection, it is more than 30 days in Bangladesh, and for medium size firms this situation is even worse, it takes approximately two months to get electricity connections. The mean days required to get a connection in Bangladesh is also statistically significant (*p*-value .0001).

Table 2: Days required for getting electricity connection

Firm size	Bangladesh	South Asia	Other developing countries
Small (<20)	30.36	32.6961	15.4543
Medium (20-99)	52.8182	34.4719	25.2067
Large (100 and over)	37.3684	38.5088	27.807

It is not surprising that medium size firms probably need more electricity than small firms, and they face even more severe obstacles. In other South Asian countries, the days required to get a connection is similar across firm size, surprisingly, in Bangladesh the large size firms need less than forty days, for medium size firms, it is more than fifty days, which is also statistically significant. A similar situation is observed for other government regulations, for example, getting license and permit.

Table 3: Days to get license and permit

Firm size	Bangladesh	South Asia	Other developing countries
Small(<20)	18.6	19.5621	23.6658
Medium(20-99)	58.5556	23.9971	30.3395
Large (100 and over)	27.3636	27.6064	34.5548

To get a license medium size firm take around 23 days in other south Asian countries, and 30 days in other developing countries, it is roughly two months in Bangladesh. Again, it is worst for the medium size firms. The larger size firms have good negotiation skills, or they may have a stronger connection with politically influential people, and the government has several programs to incentivize the smaller firms, but the medium size firms probably need to undergo with many hurdles.

Lack of good political environment seems to be a barrier to their business operation. This barrier, however, is not very severe compared to other obstacles they face such as electricity. Another often-cited obstacle for the business operation of the developing countries is corruption. While most of the firms see this as an obstacle to their business operation, some heterogeneity is observed concerning how severe the obstacle is to their business. It appears that larger firms see it as less of obstacle, the middle size firms think of it as a big obstacle to their business operation. These results are not highly controversial since it is well known that many owners of the large corporations have a good connection with government and also have a strong representation in the parliament. Hence, they are not the victim of regulations rather the beneficiary of the poor institutions.

Though the access to finance, corruption, lack of proper electric system, and political stability are common barriers for the SME growth in developing countries, different type of firms face different set of obstacles in different settings. The small and medium size firms of the developed countries see inadequate labor skills, tax rates as very important obstacles; however, the firms of the developing countries do not perceive these as important obstacles. The findings signify that although the access to finance is an important obstacle for the SMEs of developing and developed countries alike, there are substantial variation among the firms of developing countries, and even with the same countries firm size determine the barrier faced, this results are very consistent with the findings of Shimul (2017) where he observes that it's not the tax rate or taxation which determines firm size rather the differential obstacles faced by the firms are important determinants of firm sizes in the developing countries and since middle size firms face more obstacles, firms may optimize to stay small if it

cannot be large enough to avoid obstacles. Moreover, it is also likely that in countries with severe electricity problem, such as Bangladesh, firms may decide to avoid the manufacturing sector which requires a substantial amount of electricity use. This problem might be a contributing factor of a lower share of manufacturing in the developing countries as observed by Shimul (2017) and Rodrik (2016).

Though the descriptive statistics provide a reasonable explanation of the obstacles faced by different countries, we can also verify the relationship with regression analysis.

4.2 Regression Result

Following table (Table 4) presents the marginal effect of the factors influencing the six major obstacles faced by firms (small, medium and large) of Bangladesh. Large firms are included here to discern how different obstacles are affecting SMEs compared to large firms.

Table 4: Marginal effect of Pooled Probit regression for Bangladesh

Obstacles Variables	Tax rate	Access to finance	Lack of political stability	Corruption	Inadequate educated workforce	Lack of electricity
Small (= 1 if small firm, base category large firm)	0.040	0.269**	0.040	0.114	0.101	0.010
Medium (=1 if medium firm, base category large firm)	0.086	0.013	0.086	0.023	0.003	0.041
Manufacturing (=1 if manufacturing firm, base category service firm	-0.080	0.154	-0.080	0.174	0.171	0.095
City (=1 if firm resided in the city)	0.174***	0.265***	0.174***	0.196***	0.190***	0.034*
Domestic (=1 if the firm is a domestic firm, base category foreign firm)	-0.023	0.203**	-0.023	-0.041	-0.277***	-0.011
City * Small (interaction term)	-0.219***	-0.210***	-0.219***	-0.165**	-0.102	0.021
City * Medium (interaction firm)	-0.137**	-0.031	-0.137**	0.018	-0.007	-0.001

Obstacles Variables	Tax rate	Access to finance	Lack of political stability	Corruption	Inadequate educated workforce	Lack of electricity
Manufacturing * Small (interaction term)	0.040	-0.028	0.040	-0.173	-0.179	-0.041
Manufacturing * Medium	0.010	0.091	0.010	-0.130	0.007	-0.026
Female owner (=1 if the owner	0.011	0.006	0.011	0.001	-0.014	-0.022
Log of Firm Age	0.000	0.028	0.000	0.014	0.004	0.002
Log of Managers' Age	-0.014	-0.023	-0.014	-0.074***	-0.066***	-0.003
Export (=1 if firm export more than 25 % of its output)	0.002	-0.097**	0.002	-0.003	0.089**	-0.017
Number of observations	**1,417**	**1,428**	**1,417**	**1,428**	**1,425**	**1,431**

Note: *** p<0.01, ** p<0.05, * p<0.1

We see that the overall probability of tax rate being a major obstacle does not vary across firms of different sizes. In other words, medium and small firms face tax rate as a major obstacle in a similar way as the large firms. Besides, for the large firms located in the city area, the probability of tax-rate being a major obstacle is higher than that of the large firms located in the rural area. However, for small and medium firms located in the city area, we have found that the probability of tax-rate being a major obstacle is lower (interaction term "city and small", "city and medium" are negatively significant).

When access to finance is considered as an obstacle, it is seen that small firms face this problem more frequently (26.9 percentage point higher) but no notable difference is observed for medium firms in comparison with the large firms.

To see whether financial constraints vary with the location and sizes, we have introduced interaction terms of size dummies with the location dummy. Result reveals that the large and medium firms, located in the city, have the higher probability of facing the access to finance obstacle compared to the firms located in the rural area. Whereas, for the small firms located in the cities, that probability is lower than that of similar firms located in the village area. The other characteristics of firms have no significant influence on access to finance.

For political instability, the probability of it being a major obstacle for the large firms is higher than that of comparable firms located in the rural area. However, for the small firms located in the city that probability is lower as compared to the

small firms located in the rural area. We have found similar findings in case of corruption obstacle.

For the other remaining obstacles such as inadequate educated workforce and lack of electricity, we see that firm's location matters, since firms located in the urban areas seem to face larger obstacles. The exporting firms consider lack of adequate workforce as one of the severe obstacles. Table 7 shows the logit estimates which is similar to those we have found in case of probit estimators as described above.

Table 5 (appendix) shows the regression results for South Asian countries excluding Bangladesh. This regression includes all firms' (small, medium and large) from rest of the South Asian countries (India, Pakistan, Sri Lanka, Afghanistan, Nepal, and Bhutan). Among top obstacles, the tax rate is one and we expect that the larger the firm the higher the tax burden will be. The regression results show that marginal effect is 6.3% for medium size firm, and the manufacturing firms to perceive tax rate as a major obstacle is higher compared to non-manufacturing firms. Another critical issue is if the firm is an export-oriented firm, then we see that these type of firms perceive tax rate as major obstacle.

The result shows that small firms are 16.5 percentage points more likely to face financial obstacle than the large firms. Whereas medium firms are 7.5 percentage points more likely to face financial constraints compared to large firms. We also wanted to see whether financial constraints vary across manufacturing and non-manufacturing firms. Result reveals that this characteristic has no significant influence on the financial obstacle. Age of the firm does not have any statistically significant influence on the probability of access to finance being a major obstacle. Other variables such as "domestic ownership," "female ownership, "experience of the top manager" and "exporting firm" do not have any statistically significant influence on the probability of access to finance being a major obstacle.

Again, it is reported by firms that political instability is another major obstacle impeding their business. We have found that being a small firm does not have a significantly different impact on the probability of facing political stability as a major obstacle as compared to the large firms. However, medium firms are 6.3 percentage points more likely to face the problem of political instability as a major constraint as compared the large firms. Manufacturing firms are more prone to political instability compared to the service firms. It is seen that the higher the experience of the manager the higher the probability that the manager will report political instability as a major obstacle. Since many large firms are

exporters especially in Bangladesh, political instability may affect the supply chain and shipment, and hence these firms may deem political instability as a larger obstacle. On the other hand many small and medium firms may produce for local market and hence political instability could be less of a severe problem for them. Aged firms have a lower probability to report the discussed obstacle as a major problem, though the marginal effect is 0.010 (*p* value =0.05). Firms owned by female entrepreneur and export-oriented firms are more likely to be affected by political instability.

Corruption is another top reported obstacle by managers of firms. It is found that medium firms are more worried about corruption compared to large firms. The similar conclusion can be drawn from manufacturing firms and it can be said that manufacturing firms are about 20.7 percentage points more likely to perceive corruption as a problem compared to the non-manufacturing firms. Results also show that the extent of corruption is higher in cities compared to a rural areas. Export-oriented firms are also more prone to perceive the problem of corruption than non-export firms.

It is generally believed that SMEs will require less educated/skilled workforce compared to large enterprise. From the regression, we find that small firms are facing obstacles due to the lack of educated labor force. It may sound counter-intuitive. Due to the problem of education quality, large firms may do crème-skimming that i.e. hire the most talented people by providing efficiency wage. For relatively small firms it may not be possible. Hence, they find the lack of skilled human resource a problem. Small firms also suffer from the problem of electricity compared to large firms. Similarly, for manufacturing firms, electricity problem is 7.6 percentage points higher than non-manufacturing firms. Table 8 shows the logit estimates of the model that we discussed above. We found that the logit estimates are quite similar as the probit estimates depicted in Table 5.

Table 6 (appendix) shows the results of the regressions on the obstacle for Developing countries excluding the South Asian countries. We have found that as a whole, tax-rate, as major obstacle, does not vary with firm size. However, small and medium manufacturing firms are more likely to report tax-rate as a major problem compared to the large firms. In addition, firms located in the urban areas are less likely to face tax-rate as major obstacle than the comparable firms resided in the rural areas. Since the interaction of size dummies with location dummies is positive and significant, we can say that small and medium

firms are more prone to face tax-rates as a major obstacle than large firms. Again, the exporting firms are less likely to face tax-rate as a major obstacle.

In case of access to finance obstacle, we have found that small and medium firms are more likely to face the obstacle mentioned above as compared to the large firms. Regression results also demonstrate that large manufacturing firms are less likely to report access to finance as a major obstacle. On the other hand, small and medium-large manufacturing firms are more likely to experience access to finance as a major obstacle. Similarly, firms resided in the urban areas are less likely to report access to finance as a major obstacle irrespective of their sizes.

Result shows that in general firms of all sizes face political instability in a similar way in case of developing countries excluding South Asia. However, if the firms are located in the city, then small and medium firms are affected more due to political instability. Similarly, small and medium manufacturing firms are more likely to report this obstacle as a major obstacle compared to the large manufacturing firms. Again, we have found that exporting firms are less likely to report political instability as a major obstacle than the non-exporting firms. Similarly, domestic firms are more likely to report political instability as a major obstacle compared to their foreign counterparts. The remaining obstacle corruption and lack of electricity do not vary with the firm size. As like the previous two cases we found that logit estimators (as represented Table 9) gave similar results as like as the probit estimators.

5.0 Comparisons

For Bangladesh, we have found that firms of urban areas are more likely to report tax-rate as a major obstacle. In addition, for urban areas of Bangladesh, small and medium firms are more prone to a tax-rate obstacle. For firms of developing countries (excluding the South Asia), we can draw an opposite conclusion. On the contrary, for South Asia (excluding Bangladesh), medium firms are more likely to face tax-rate as major obstacle than the comparable large firms, irrespective of their location or types of industries.

In case of access to finance, Bangladeshi small firms are more prone to the access to finance constraint than that of Bangladeshi large firms. For the other South Asian countries, we have found that both small and medium firms are more likely to report access to finance as a major obstacle.

In case of political instability, we have shown that only Bangladeshi firms located in the urban areas are more likely to face political instability as a major

obstacle. However, for the small and medium Bangladeshi firms situated in the rural areas, political instability is less severe. In other South Asian countries, medium as well as manufacturing firms report political instability as a severe obstacle. Other firm's characteristics, such as female ownership, exporting firms etc. are important for this impediment in the case of South Asia (excluding Bangladesh). Again, for developing countries, firm size does not have any effect on the severity of political instability obstacle. In addition, small firms, as well as medium firms, resided in the cities are more likely to face political instability as a major instability compared to the small and medium firms of the rural areas.

In case of corruption, firms of Bangladesh, irrespective of their size, face the obstacle in a similar manner. However, small and medium firms of urban areas are more likely to report corruption as a major obstacle compared to the large urban firms. For firms of other South Asian countries, we have found that irrespective of other characteristics, medium firms are more likely report corruption as a major obstacle. However, for the manufacturing sector the small and medium firms report corruption as a less severe obstacle. Lastly, for the developing countries, the manufacturing small and medium firms report corruption to be more severe compared to the larger manufacturing firms. We can draw a similar conclusion for the urban firms of other developing countries.

For the inadequately educated workforce, firm size does not have any influence on the severity of the obstacle for Bangladeshi firms. However, small firms report this particular obstacle as more severe than the large firms in South Asian countries.

In case of lack of electricity being an obstacle, firm size does not matter in the urban areas. For the other South Asian countries, small firms are more likely to face lack of electricity as a constraint compared to large and medium firms. For developing countries, lack of electricity obstacle does not vary with firm size. However, small manufacturing firms suffer more due to lack of electricity.

6.0 Conclusion

Using Enterprise survey data of World Bank, this study attempts to understand barriers faced by the SMEs in Bangladesh as well as in other developing countries. The access to finance is a known barrier for SMEs, and this study affirms that notion. In addition, this study explores the differences in barriers across countries and across firm characteristics. It is observed that firms of different countries experience different sets of barriers, and even the firm characteristics also explain some of the variation. Moreover, the most important

obstacles seem to be different as well. Electricity problem is very severe in Bangladesh and in many developing countries; however, SMEs of developing countries face a different set of obstacles compared to the SMEs of Bangladesh and other South Asian countries. An inadequate workforce is one of them. The study recommends country-specific measures to tackle the barriers. Though the study provides some theoretical motivations, a well specified structural model is not used. Moreover, it is mostly based on perception data which is highly correlated with other variables and the composition of industry structure can also play a role in determining the obstacles faced which has not been considered. These limitations need to be taken into account before any policy formulation. Future research can address some of those limitations.

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Appendix

Table A: Variable descriptions

Obstacle X (dependent variable)	Here X = tax rate, access to finance, political stability, corruption, inadequate educated labor force, and electricity. Variables representing each of the institutional constraints assume either '1' or '0', where '1' denotes severe constraint and '0' denotes no constraint
Firm Size	Represented by 3 dummies. For example Small (= 1 if small firm), Medium (=1 if medium firm) , base category is large firm
Industry type	Represented by Manufacturing dummy (=1 if manufacturing firm) , base category is service firm
Location	Represented by the City dummy (=1 if firm resided in the city), base category is village
Domestic	Represented by Domestic dummy (=1 if the firm is a domestic firm), base category foreign firm
Interaction term of firm size and location dummy	As we have used two separate dummy there will two separate interaction terms as follows. City * Small, City * Medium
Interaction term of firm size and industry type	Two interaction terms for small and medium size firms. Manufacturing * Small , Manufacturing * Medium
Female ownership	Female owner (=1 if the owner is female)
Firm age	Measured in number years of operation since establishment
Managerial experience	Measured by the age of top managers
Exporting firm	Represented by Export dummy (=1 if firm export more than 25 % of its output), base category is the firms that export less than 25 % of their output.

Table 5: Marginal effect of Probit regression for South Asia (excluding Bangladesh)

Obstacles Variables	Tax rate	Access to finance	Lack of political stability	Corruption	Inadequate educated workforce	Lack of electricity
Small (= 1 if small firm, base category large firm)	0.010	0.169***	0.010	0.014	0.067***	0.048**
Medium (=1 if medium firm, base category large firm)	0.063**	0.075***	0.063**	0.054**	0.040	-0.000
Manufacturing (=1 if manufacturing firm, base category service firm	0.126***	0.018	0.126***	0.207***	0.033	0.076***
City (=1 if firm resided in the city)	0.059	0.048	0.059	0.229***	0.037	-0.055
Domestic (=1 if the firm is a domestic firm, base category foreign firm)	-0.003	0.061	-0.003	0.122***	-0.059	0.004
City * Small (interaction term)	-0.022	-0.033	-0.022	-0.025	-0.033	-0.008
City * Medium (interaction firm)	0.021	-0.021	0.021	-0.044	0.020	-0.075*
Manufacturing * Small (interaction term)	-0.036	-0.023	-0.036	-0.068**	-0.048*	-0.065**
Manufacturing * Medium	-0.047	0.001	-0.047	-0.064**	-0.025	0.007
Female owner (=1 if the owner	0.023*	-0.002	0.023*	-0.031**	0.001	-0.002
Log of Firm Age	-0.010**	-0.025***	-0.010**	-0.004	-0.000	-0.020***
Log of Managers' Age	0.038***	0.009	0.038***	-0.013**	0.019***	0.010*
Export (=1 if firm export more than 25 % of its output)	0.038**	0.021	0.038**	0.063***	0.023	-0.006
Number of observations	**12,095**	**12,065**	**12,095**	**12,038**	**12,069**	**12,166**

Note: *** p<0.01, ** p<0.05, * p<0.1

Table 6: Marginal effect of probit regression for Developing Countries other than South Asia

Obstacles Variables	Tax rate	Access to finance	Lack of political stability	corruption	Electricity
Small (= 1 if small firm, base category large firm)	-0.005	0.093***	-0.005	-0.002	0.010
Medium (=1 if medium firm, base category large firm)	-0.000	0.030**	-0.000	0.011	0.016
Manufacturing (=1 if manufacturing firm, base category service firm	-0.041***	-0.031***	-0.041***	-0.066***	-0.004
City (=1 if firm resided in the city)	-0.068***	-0.031**	-0.068***	-0.143***	-0.014
Domestic (=1 if the firm is a domestic firm, base category foreign firm)	-0.045***	0.019***	-0.045***	-0.041***	-0.045***
City * Small (interaction term)	0.074***	-0.013	0.074***	0.107***	-0.023
City * Medium (interaction firm)	0.036**	-0.003	0.036**	0.078***	-0.018
Manufacturing * Small (interaction term)	0.031**	0.079***	0.031**	0.068***	0.041***
Manufacturing * Medium	0.043***	0.071***	0.043***	0.037***	0.020
Female owner (=1 if the owner	-0.030***	-0.046***	-0.030***	-0.083***	-0.044***
Log of Firm Age	0.014***	-0.001	0.014***	0.020***	0.014***
Log of Managers' Age	0.049***	0.011***	0.049***	0.035***	-0.019***
Export (=1 if firm export more than 25 % of its output)	-0.044***	-0.037***	-0.044***	-0.018**	0.005
Number of observations	**53,202**	**53,102**	**53,202**	**52,339**	**53,936**

Note: *** p<0.01, ** p<0.05, * p<0.1

Table 7: Marginal effect of Pooled logit regression for Bangladesh

Obstacles Variables	Tax rate	Access to finance	Lack of political stability	Corruption	Inadequate educated workforce	Lack of electricity
Small (= 1 if small firm, base category large firm)	0.048	0.29**	0.048	0.114	0.112	0.009
Medium (=1 if medium firm, base category large firm)	0.088	0.018	0.088	0.017	-0.002	0.036
Manufacturing (=1 if manufacturing firm, base category service firm	-0.080	0.159	-0.080	0.157	0.18	0.054**
City (=1 if firm resided in the city)	0.175***	0.27***	0.175***	0.20***	0.196***	0.030*
Domestic (=1 if the firm is a domestic firm, base category foreign firm)	-0.036	0.208**	-0.036	-0.039	-0.333***	-0.015
City * Small (interaction term)	-0.240***	-0.206***	-0.24***	-0.162**	-0.112	0.021
City * Medium (interaction firm)	-0.143**	-0.028	-0.142**	0.011	-0.009	-0.001
Manufacturing * Small (interaction term)	0.039	-0.037	0.040	-0.16	-0.19	-0.031
Manufacturing * Medium	0.010	0.085	0.009	-0.12	0.006	-0.017
Female owner (=1 if the owner	0.009	0.009	0.009	0.0008	-0.015	-0.014
Log of Firm Age	-0.00003	0.00003	-0.0003	0.000	-0.000	0.0001
Log of Managers' Age	-0.0007	-0.0005	-0.000	-0.045***	-0.04***	-0.0003
Export (=1 if firm export more than 25 % of its output)	0.001	-0.10**	0.0015	-0.0045	0.082*	-0.016
Number of observations	**1,417**	**1,428**	**1,417**	**1,428**	**1,425**	**1,431**

Note: *** p<0.01, ** p<0.05, * p<0.1

Table 8: Marginal effect of logit regression for South Asia (excluding Bangladesh)

Obstacles Variables	Tax rate	Access to finance	Lack of political stability	Corruption	Inadequate educated workforce	Lack of electricity
Small (= 1 if small firm, base category large firm)	0.012	0.174***	0.012	0.016	0.065***	0.055***
Medium (=1 if medium firm, base category large firm)	0.064**	0.75***	0.064**	0.057**	0.041*	0.003
Manufacturing (=1 if manufacturing firm, base category service firm	0.12***	0.017	0.125***	0.199***	0.033	0.071***
City (=1 if firm resided in the city)	0.18	0.045	0.058	0.284***	0.036	-0.054*
Domestic (=1 if the firm is a domestic firm, base category foreign firm)	-0.009	0.074	-0.0099	0.124***	-0.051	0.025
City * Small (interaction term)	-0.018	-0.035	-0.02	-0.032	-0.033	-0.012
City * Medium (interaction firm)	0.022	-0.020	0.02	-0.05	0.016	-0.066*
Manufacturing * Small (interaction term)	-0.39	-0.027	-0.039	-0.07***	-0.04*	-0.067***
Manufacturing * Medium	-0.047*	0.0012	-0.047*	-0.64**	-0.026	0.005
Female owner (=1 if the owner	0.029*	-0.0025	0.023*	-0.031**	-0.001	0.0005
Log of Firm Age	-0.003***	-0.000	-0.008***	0.000	0.000	0.008***
Log of Managers' Age	0.02***	-0.0006	0.023***	-0.0005	0.01***	-0.002
Export (=1 if firm export more than 25 % of its output)	0.039**	0.021	0.040**	0.06***	0.023	-0.003
Cons	-0.073	-0.29***	-0.07	-0.14***	-0.197***	0.140***
Number of observations	**12,095**	**12,065**	**12,095**	**12,038**	**12,069**	**12,166**

Note: *** p<0.01, ** p<0.05, * p<0.1

Table 9: Marginal effect of logit regression for Developing Countries other than South Asia

Obstacles Variables	Tax rate	Access to finance	Lack of political stability	corruption	Electricity
Small (= 1 if small firm, base category large firm)	-0.009	0.091***	-0.0092	-0.008	0.005
Medium (=1 if medium firm, base category large firm)	-0.001	0.029**	-0.001	0.008	0.014
Manufacturing (=1 if manufacturing firm, base category service firm	-0.039***	-0.031***	-0.040***	-0.065***	-0.002
City (=1 if firm resided in the city)	-0.067***	-0.031**	-0.067***	-0.147***	-0.017
Domestic (=1 if the firm is a domestic firm, base category foreign firm)	-0.047***	0.019***	-0.047***	-0.043***	-0.047***
City * Small (interaction term)	0.076***	-0.009	0.075***	0.109***	-0.022
City * Medium (interaction firm)	0.036**	-0.0003	0.036**	0.08***	-0.017
Manufacturing * Small (interaction term)	0.030**	0.082***	0.030**	0.068***	0.043***
Manufacturing * Medium	0.042***	0.072***	0.0425***	0.036***	0.019
Female owner (=1 if the owner	-0.030***	-0.0046***	-0.030***	-0.082***	-0.043***
Log of Firm Age	-0.002***	-0.002***	-0.002***	-0.0001	0.0001
Log of Managers' Age	0.038***	0.003*	0.038***	0.03***	-0.008***
Export (=1 if firm export more than 25 % of its output)	-0.045***	-0.038**	-0.045***	-0.007**	0.004
Constants	0.041***	-0.00696***	0.042***	0.048***	0.216***
Number of observations	**53,202**	**53,102**	**53,202**	**52,339**	**53,936**

Note: *** p<0.01, ** p<0.05, * p<0.1